

REMARKS

Claims 1 to 62 are pending in this application. Claims 1 to 62 are subject to restriction under 35 U.S.C. § 121 and 372. Claim 28 is cancelled. Applicants reserve the right to pursue the subject matter of claim 28 in future continuing applications. All claim amendments are for purposes of improved clarity or consistency of claim language. No claim amendment should be construed as relating to patentability. After entry of the present amendments, claims 1-27 and 29-62 will be pending.

Restriction Requirement

In the present Office Action, restriction is required between the following groups:

Group I: Claims 1-19, 43-48 and 59-62, drawn to a first product, a polynucleotide encoding a codeinone reductase enzyme, and a method of using said polynucleotide.

Group II: Claims 20-28, drawn to a second product, an isolated enzyme.

Group III: claims 29-51, drawn to a third product, a transformed cell, callus or plant, and a method of making said plant.

Group IV: Claims 52-53 drawn to a fourth product, straw.

Group V: Claims 54-55 drawn to a fifth product, an isolated alkaloid.

Group VI: Claims 56 and 58, drawn to a third method, a method of making an alkaloid.

Group VII: Claims 57-58, drawn to a fourth method, a second method of making an alkaloid.

According to the Action, the inventions do not relate to a single general inventive concept under PCT Rule 13.1 because they allegedly lack the same or corresponding special technical features. Applicants respectfully traverse and request reconsideration because the Examiner, although citing the correct standard under Rule 13.1 standard, has misapplied it as it relates to the present claims. Additionally, the Examiner has improperly relied on 35 U.S.C. § 121 to require the selection of a single nucleotide sequence from Figures 10-15 encoding a single corresponding amino acid sequence from Figures 3-4.

With respect to the rejection for lack of unity, the Office Action states on page 3 that the groups lack unity because they are not united by a single special technical feature. Applicants respectfully traverse at least because the claims can be characterized by the following common feature: an isolated polynucleotide encoding a codeinone reductase enzyme as set forth in SEQ ID NO: 26, SEQ ID NO: 27, SEQ ID NO: 28, or SEQ ID NO: 29 or the isolated codeinone reductase enzyme that the polynucleotide encodes. According to PCT Rule 13.2, "where a group of inventions is claimed in one and the same international application, the requirement of unity of invention referred to in Rule 13.1 shall be fulfilled only when there is a technical relationship among those inventions involving one or more of the same or corresponding technical features" MPEP 1850. Because there is such a technical relationship between groups I through VII, Applicants submit that Rule 13.1 is fulfilled and respectfully request that the rejection be withdrawn. At a minimum, it is respectfully requested that Groups I, III, IV, VI, and VII be rejoined. All of the products and methods in the claims of Groups I, III, IV, VI, and VII share the same technical feature, *i.e.*, isolated polynucleotide encoding a codeinone reductase enzyme as set forth in SEQ ID NO: 26, SEQ ID NO: 27, SEQ ID NO: 28, or SEQ ID NO: 29. This is a technical feature that that each of the inventions set forth in the claims of Groups I, III, IV, VI, and VII make over the prior art. Neither the Lenz nor Yun references, cited by the Examiner, teach the isolated polynucleotides of the present invention or the amino acid sequences of the codeinone reductase enzymes provided herein. As further evidence that the claims do not lack unity of invention, Applicants direct Examiner's attention to the PCT International Search Report that indicates that according to PCT standards, the claims do not lack unity of invention. To be fully responsive, however, Applicants hereby elect the claims of group I while reserving the right to prosecute the claims of non-elected groups in future continuing or divisional applications.

With respect to the requirement that Applicants select a single sequence, Applicants direct the Examiner to MPEP § 803.04. As provided in MPEP § 803.04, the Patent Office has decided *sua sponte* to aid the biotechnology industry by partially waiving the requirement that claims drawn to biomolecules are automatically subject to requirement for restriction under 35 U.S.C. § 121 and 37 C.F.R. § 1.141 and to permit a reasonable number of biomolecules to be claimed in a single application. Ten sequences has been determined to be

a reasonable number. *See id.* Only in exceptional cases, such as where “a protein amino acid sequence reciting three dimensional folds” is claimed, will the reasonable number of biomolecules examined in an application be less than ten. *Id.* No exceptional circumstances warranting fewer than ten biomolecules in a single application are present in the instant case. Moreover, the nucleic sequences claimed in the present application all encode isoforms of the same protein, codeinone reductase enzyme from an alkaloid poppy plant..

Furthermore, Applicants are unsure as to why the Examiner is requiring that Applicants select a single nucleotide sequences from Figures 10-15 encoding a single corresponding amino acid sequence from Figures 3-4. Claim 1 is directed to an isolated and purified polynucleotide that encodes a codeinone reductase enzyme. Applicants have amended claim 1 to recite an isolated and purified polynucleotide encoding a codeinone reductase enzyme from an alkaloid poppy plant, wherein said codeinone reductase enzyme is as set forth in SEQ ID NO: 26, SEQ ID NO: 27, SEQ ID NO: 28, or SEQ ID NO: 29. It is Applicants’ understanding that the selection of these four sequences will suffice to meet the requirements of 35 U.S.C. § 121. These four sequences are fewer than the ten sequences provided for in MPEP § 803.04. To be fully responsive, however, Applicants hereby elect prosecution of an isolated and purified polynucleotide which codes for prokaryotic or eukaryotic expression of a codeinone reductase enzyme as set forth in SEQ ID NO: 26.

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Applicants believe that the foregoing constitutes a complete and full response to the Office Action of record. An early and favorable consideration of the present application is respectfully requested.

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